EUROPEAN COMMISSION
Information Society and Media Directorate General

Lisbon Strategy and Policies for the Information Society
Lisbon Strategy and i2010

Use of Computers and the Internet in Schools in Europe 2006

Country Brief: Slovenia

6 / 2006

Key findings

All Slovenian schools now use computers for teaching and have internet access. A high 85% use the internet via a broadband connection. With this figure Slovenia ranks at number 9 of the 27 countries participating in the survey.

There is some variation between school types: while 84% of primary schools have a broadband internet connection, the penetration is highest among upper secondary schools with 89%, and vocational schools with 91%.

There is also some variation with regard to broadband access between urban and rural areas: 93% of schools in densely populated areas have broadband access compared to 81% of schools in thinly populated areas.

A very high 93% of the Slovenian schools using computers for teaching use them in classrooms, with the highest percentage being achieved in primary and lower secondary schools (96%). All schools offer computers in computer labs and 89% in school libraries while vocational schools reach a figure of 96%.

Despite all these very positive figures, the quantity of ICT equipment and the number of computers per 100 pupils still leaves substantial room for improvement, since on average there are only 8 computers per 100 pupils, a figure still below the European average of 11.

In 81% of schools ICT is used as an integral part of teaching most subjects with little variation across school types.

68% of Slovenian classroom teachers had used computers in class in the 12 months prior to the survey, with some variation across school types, i.e. the lower level school teachers are the more frequent ICT users (72% as opposed to slightly more than 50% in the upper level schools).

Most (46%) of the teachers using computers use them in less than 10% of all lessons. 12% state that they use computers in more than half of their lessons. Teachers in vocational schools use computers in class much more frequently than their colleagues in general education.

Older teachers are slightly more frequent ICT users in class. While 25% of the younger teachers with less than five years of teaching experience use ICT in more than a quarter of their lessons, this figure reaches around 40% in all other age groups.

32% of teachers in Slovenia still do not use computers in class. Asked for the most important barrier, a very high 61% state a lack of computers in their schools as an important barrier. This is the fourth highest figure in Europe. Lack of computers in class seem to be a very relevant problem especially in upper secondary schools (84%) and vocational schools (79%) and less so (but still above the European overall average) in primary schools (51%).

Upper level school teachers (almost 50%) seem to be less ICT competent than those in lower level schools (around 35%).

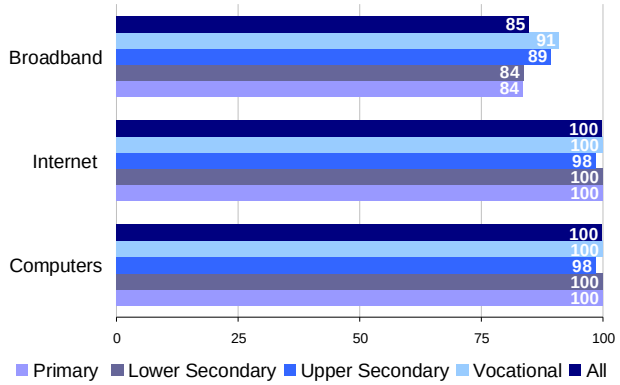
90% argue that there are significant learning benefits for pupils when using ICT in class. This is the third best figure from all European countries.

With 52% of the teachers disposing of ICT access, the necessary ICT skills and motivation to ICT use in class, Slovenia ranks 3rd which places the country close to the top of European countries in terms of ICT readiness of teachers. Again one needs to bear in mind that the ACM model, and as a consequence the ICT readiness, has been calculated on the basis of indicators which include a self-assessment of teachers and their subjective opinions. This implies that subjective feelings and assessments may well differ from factual situations.

ICT Equipment and Internet in Schools

All Slovenian schools now use computers for teaching and have internet access. A high 85% use the internet via a broadband connection. With this figure Slovenia ranks at number 9 of the 27 countries participating in the survey.

Percentage of Schools Using Computers, Internet Connection, and Broadband Internet Access According to School Type in Slovenia 2006



Source: *LearnInd HTS 2006;* ***Base:*** *All schools;* ***Question:*** *Computers: Q6; Internet, Broadband: Q9. See questionnaire for exact wording.*

There is some variation between school types: while 84% of primary schools have a broadband internet connection, the penetration is highest among upper secondary schools with 89%, and vocational schools with 91%.

There is also some variation with regard to broadband access between urban and rural areas: 93% of schools in densely populated areas have broadband access compared to 81% of schools in thinly populated areas.

A very high 96% of schools have a website, 93% offer e-mail to teachers, and 38% do so to pupils.

A very high 93% of the Slovenian schools using computers for teaching use them in classrooms, with the highest percentage being achieved in primary and lower secondary schools (96%). All schools offer computers in computer labs and 89% in school libraries whereby vocational schools reach a figure of 96%.

Those schools with a broadband connection to the internet are much more likely to have a more sophisticated ICT infrastructure including a school website, the use of a LAN or the availability of an intranet.

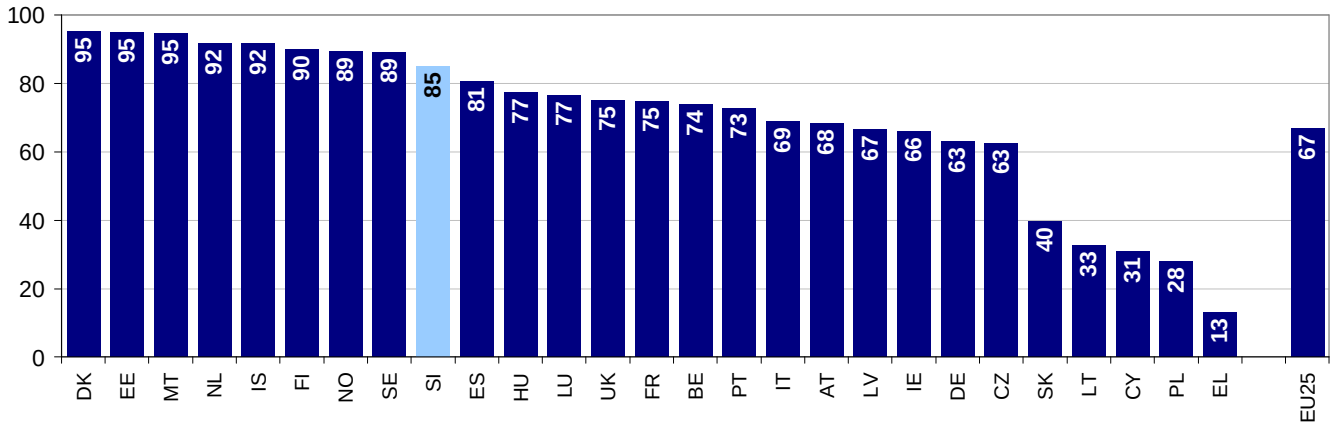
Despite all these very positive figures, the quantity of ICT equipment and the number of computers per 100 pupils still leaves substantial room for improvement since on average there are only 8 computers per 100 pupils, a figure still below the European average of 11.

The use of Computers and the Internet in Schools

Computers are used for various purposes and as part of teaching different subjects in schools but also and very widely as a separate subject.

Computer sciences are taught as a separate subject in 91% of Slovenian schools, mostly in vocational schools (98%). In 81% of schools ICT is used as an integral part of teaching most subjects with little variation across school types.

Percentage of Schools with Broadband Internet Access in Europe 2006



Source: *LearnInd HTS 2006;* ***Base:*** *All schools;* ***Question:*** *Q9. See questionnaire for exact wording.*

ICT equipment in Slovenian schools 2006

				Educational Level (SI)				Type of locality (SI)			Internet Access (SI)	
	Total SI	Total EU25	Total NMS10	Primary	Lower secondary	Upper secondary	Vocational	Densely populated	Inter-mediate	Thinly populated	Narrow-band	Broadband
Computers per 100 pupils [a]	8.0	11.3	7.1	8.0	8.0	8.1	9.0	7.0	7.4	9.2	*9.2**	7.9
	7.5	9.9	6.4	7.4	7.5	7.8	8.5	6.8	7.1	8.5	*8.7**	7.4
Percentage of schools having...												
Computers for teaching [b]	99.8	98.7	96.7	100.0	100.0	98.5	100.0	98.9	100.0	100.0	*100.0**	100.0
Internet access [c]	99.8	96.2	94.7	100.0	100.0	98.5	100.0	98.9	100.0	100.0	*100.0**	100.0
Broadband internet access [d]	84.8	66.9	43.4	83.6	83.6	89.3	91.0	93.4	85.1	81.0	*0.0**	100.0
A website [e]	95.5	63.0	66.7	94.4	94.4	98.5	100.0	98.9	98.0	92.4	*89.6**	96.8
An e-mail address for the majority of teachers [f]	93.4	65.2	48.1	93.4	93.4	91.2	96.4	91.0	95.6	93.0	*100.0**	92.5
An e-mail address for the majority of pupils [g]	37.5	23.5	24.4	33.5	33.4	58.4	48.3	28.2	45.1	36.1	*32.6**	38.4
A LAN [h]	88.1	55.2	60.4	87.4	87.4	95.4	88.4	89.8	88.5	87.2	*76.5**	90.4
An intranet [i]	31.5	40.8	26.9	25.9	26.1	43.5	55.2	30.1	31.6	32.1	*34.4**	31.1
An external support or maintenance contract [j]	50.8	47.1	44.3	51.0	50.9	44.7	53.1	48.5	51.9	51.0	*39.1**	53.0
Percentage of schools using computers for education in…												
Computer labs [k]	100.0	80.5	94.6	100.0	100.0	100.0	100.0	100.0	100.0	100.0	*100.0**	100.0
Classrooms [l]	93.1	61.4	29.5	96.4	96.4	84.6	83.4	93.4	91.2	94.3	*92.6**	93.2
School library [m]	88.6	33.4	36.8	86.5	86.6	94.2	96.2	85.5	86.2	91.6	*77.6**	90.6
Other locations accessible for pupils [n]	24.1	27.0	20.2	18.4	18.6	46.9	40.5	24.9	22.1	25.1	*28.4**	23.3

Source: *LearnInd HTS 2006;* ***Base:*** *a: all pupils; b-j: all schools, k-n: schools using computers for educational purposes for pupils (cf. index b);* ***Question:*** *a: Q4, Q6, Q7; b: Q6; c: Q9; d: Q9; e-j: Q12; k-n: Q8. See questionnaire for exact wording.* ***Notes:*** *"xx.x*": based on at least 10 and less than 50 cases.*

Use of computers in class in Slovenia 2006

Assessments of the head teacher		Total SI	Total EU25	Total NMS10	Educational Level (SI)				Type of locality (SI)			Internet Access (SI)	
					Primary	Lower secondary	Upper secondary	Vocational	Densely populated	Inter-mediate	Thinly populated	Narrow-band	Broadband
Computer sciences taught as separate subject	Agree	90.5	54.7	91.2	88.4	88.4	98.4	97.5	97.7	85.9	90.6	*84.8**	91.5
	Disagree	9.5	43.7	8.4	11.6	11.6	1.6	2.5	2.3	14.1	9.4	*15.2**	8.5
	Don't know	0.0	1.6	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0**	0.0
Computers and the internet are													
integrated into teaching of most subjects	Agree	81.1	75.3	73.1	82.2	82.3	79.6	76.6	77.4	84.3	80.3	*80.7**	81.1
	Disagree	18.7	24.1	26.4	17.8	17.7	19.0	22.3	22.6	15.7	19.3	*19.3**	18.7
	Don't know	0.2	0.6	0.4	0.0	0.0	1.4	1.2	0.0	0.0	0.4	*0.0**	0.2
used for teaching traditional subjects or basic skills	Agree	74.3	75.8	72.3	79.8	79.8	57.9	57.1	69.2	76.3	75.1	*77.5**	73.8
	Disagree	25.5	22.8	26.0	20.2	20.2	40.7	41.8	30.8	23.7	24.5	*22.5**	26.0
	Don't know	0.2	1.4	1.7	0.0	0.0	1.4	1.2	0.0	0.0	0.4	*0.0**	0.2
used for teaching foreign languages	Agree	84.2	56.6	71.1	87.7	87.7	76.7	72.9	74.8	86.9	86.2	*92.5**	82.7
	Disagree	15.8	40.1	28.0	12.3	12.3	23.3	27.1	25.2	13.1	13.8	*7.5**	17.3
	Don't know	0.0	3.3	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	*0.0**	0.0
used for teaching students with special needs/ handicaps	Agree	63.7	71.7	58.3	67.2	67.2	59.9	51.4	57.8	66.5	64.2	*68.6**	62.8
	Disagree	35.5	23.7	31.6	31.7	31.6	40.1	48.6	40.0	33.5	34.9	*31.4**	36.2
	Don't know	0.9	4.6	10.1	1.1	1.1	0.0	0.0	2.2	0.0	0.9	*0.0**	1.0

Source: *LearnInd HTS 2006;* ***Base:*** *All schools using computers for educational purposes for pupils;* ***Question:*** *Q13: "To what extent do you agree or disagree with the following statements regarding the educational use of computers and/or the internet in your school?"* ***Notes:*** *"xx.x*": based on at least 10 and less than 50 cases.*

68% of Slovenian classroom teachers had used computers in class in the 12 months prior to the survey, with some variation across school types, i.e. the lower level school teachers are the more frequent ICT users (72% as opposed to slightly more than 50% in the upper level schools).

For most teachers, this includes not only using a computer for presentation purposes but also the use of computers by pupils in class.

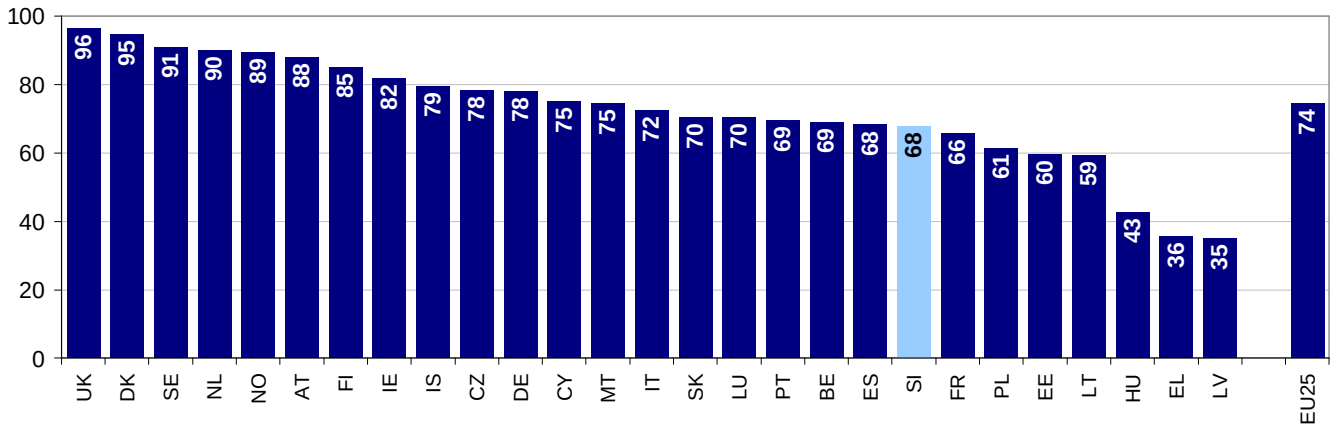
Most (46%) of the teachers using computers use them in less than 10% of all lessons. 12% state that they use computers in more than half of their lessons. Teachers in vocational schools use computers in class much more frequently than their colleagues in general education with 31% using computers in more than a half of their lessons compared to just 8% in primary schools.

Slovenian teachers using computers do not restrict themselves to a particular source of information but use a multitude of different material from a variety of sources for teaching purposes which in most categories is slightly below the European average.

Surprisingly the older teachers (indicator used here: years of teaching experience) seem to be the slightly more frequent ICT users. While 25% of the younger teachers with less than five years of teaching experience use ICT in more than a quarter of their lessons, this figure reaches around 40% in all other age groups.

32% of teachers in Slovenia still do not use computers in class. Asked for the most important barrier, a very high 61% state a lack of computers in their schools as an important barrier. This is the fourth highest figure in Europe.

Percentage of teachers who have used computers in class in the last 12 months (2006)



Source: *LearnInd CTS 2006;* ***Base:*** *All teachers;* ***Question:*** *Q7. See questionnaire for exact wording.*

Teachers' use of computers in class in Slovenia 2006

Percentage of teachers who …	Total SI	Total EU25	Total NMS10	Educational Level (SI)				Type of locality (SI)			Years of teaching experience (SI)			
				Primary	Lower secon-dary	Upper secon-dary	Voca-tional	Densely popu-lated	Inter-mediate	Thinly popu-lated	<5 y	5-9 y	10-19 y	20+ y
...have used computers in class[1]	67.6	74.3	61.3	71.7	71.6	53.6	52.2	61.1	63.0	73.5	71.5	65.8	67.1	67.2
…use a computer in class to present or demonstrate	62.9	63.4	55.5	66.1	66.0	51.8	50.7	52.5	58.8	70.1	71.5	54.7	65.5	61.6
…have pupils use a computer in class	60.2	66.3	53.8	66.8	67.1	34.6	37.5	54.0	52.7	67.9	61.4	61.9	54.3	62.2

Source: *LearnInd CTS 2006;* ***Base:*** *All teachers;* ***Question:*** *Q7 "How have you used computers and/or the internet for work in the last 12 months?"*

Lack of computers in class seem to be a very relevant problem especially in upper secondary schools (84%) and vocational schools (79%) and less so (but still above the European overall average) in primary schools (51%).

Only few – 4% of all and 12% of those not using ICT – are not convinced of any benefits of using computers in class. Just 11% express the opinion that teachers lack the necessary skills to utilize computers in their teaching, and 7% state lack of interest of teachers as a problem.

In total the statement "lack of equipment in school" is expressed by a rather high 20% of all Slovenian teachers (32% non-users multiplied with 61% of teachers agreeing to this item).

Virtually all schools are equipped with at least some computers in Slovenia, although at a rather low level with only 8 computers per 100 pupils in general. There seems to be some scope for further ICT-infrastructure improvements at Slovenian schools such as an increase of the number of computers in total and per pupil where Slovenia ranks quite low compared to other European countries.

Frequency of computers use in class in Slovenia 2006

Percentage of all teachers *using computers in class* who …	Total SI	Total EU25	Total NMS10	Educational Level (SI)				Type of locality (SI)			Years of teaching experience (SI)			
				Primary	Lower secon-dary	Upper secon-dary	Voca-tional	Densely popu-lated	Inter-mediate	Thinly popu-lated	<5 y	5-9 y	10-19 y	20+ y
…use computers in 5% and less of all lessons	22.3	18.5	15.0	24.1	23.1	25.0	11.5	26.4	21.4	21.3	*36.5**	*19.0**	16.0	21.8
in 6 to 10% of lessons	24.3	22.5	17.7	26.7	26.4	14.5	14.7	16.3	24.7	26.9	*17.4**	*31.8**	20.8	25.9
in 11 to 24% of lessons	21.7	22.2	22.1	20.8	21.8	26.9	21.4	19.5	25.7	20.1	*21.2**	*10.3**	23.6	24.3
in 25 to 50% of lessons	20.2	20.2	24.0	20.2	20.7	11.5	21.7	23.1	15.4	22.0	*17.7**	*19.7**	25.1	18.8
more than 50% of lessons	11.5	16.5	21.3	8.2	8.1	22.1	30.7	14.7	12.8	9.6	*7.2**	*19.3**	14.5	9.2

Source: *LearnInd CTS 2006;* ***Base:*** *Teachers using computers in class, "don't know" answers excluded;* ***Question:*** *Q9 "For what percentage of time have you used computers and/or the internet in class when teaching your main subject(s) in the past 12 months?"* ***Notes:*** *"xx.x*": based on at least 10 and less than 50 cases.*

Source of educational material used in class in Slovenia 2006

Percentage of all teachers *using computers in class*[2] who …	**Total SI**	**Total EU25**	**Total NMS10**	**Educational Level**				**Type of locality**		
				Primary	**Lower secondary**	**Upper secondary**	**Vocational**	**Densely populated**	**Inter-mediate**	**Thinly populated**
…use material they have searched the internet for	70.6	82.7	81.8	69.4	69.8	79.0	78.3	77.7	69.0	69.1
…use existing online material from established educational sources	53.9	74.2	61.8	52.4	54.2	61.6	56.0	55.3	54.8	53.0
…use material that is available on the school's computer network or database	51.7	63.1	52.7	53.9	54.4	43.2	36.7	37.0	52.9	56.0
…use electronic offline material (such as CD ROMS)	73.0	83.0	82.2	73.1	73.5	76.0	72.9	81.2	72.5	70.4
…use other learning material when using computers in class	6.1	8.8	10.8	4.5	4.5	13.4	12.4	7.4	5.4	6.0

Source: *LearnInd CTS 2006;* ***Base:*** *Teachers using computers in class;* ***Question:*** *Q10 "Which of the following types of materials have you used when teaching your main subject(s) with the aid of a computer and/or the internet?"*

Barriers to computer use in class in Slovenia 2006

Percentage of all teachers ***not*** *using computers in class*	Total SI	Total EU25	Total NMS10	Educational Level				Type of locality		
				Primary	Lower secondary	Upper secondary	Vocational	Densely populated	Inter-mediate	Thinly populated
Lack of computers	61.3	48.8	49.0	50.7	51.3	84.1	79.0	*70.0**	57.5	59.4
Lack of adequate content/material	14.2	20.3	16.5	16.3	15.9	17.3	8.1	*9.7**	14.5	16.8
Lack of content in national language	6.7	8.6	5.7	6.2	6.1	9.8	9.1	*4.7**	13.0	1.9
Lack of adequate skills of teachers	11.3	22.5	9.8	12.2	13.6	9.0	8.3	*14.1**	14.4	6.7
No or unclear benefits	11.9	16.2	6.8	12.1	11.8	12.2	12.3	*16.0**	11.6	9.6
Lack of interest of teachers	6.9	8.9	3.3	6.0	5.9	12.0	9.2	*6.4**	5.0	9.0
Subject does not lend itself to being taught via computers	24.3	24.4	25.0	27.2	27.1	18.1	22.0	*28.7**	26.1	19.8
Other	7.2	21.3	20.3	8.7	8.5	4.7	4.4	*1.7**	4.5	13.3

Source: *LearnInd CTS 2006;* ***Base:*** *all teachers not using computers in class;* ***Question:*** *Q12: "Why do you not use computers and/or the internet when teaching in class?"* ***Notes:*** *"xx.x*": based on at least 10 and less than 50 cases.*

Attitudes on the Usefulness of ICT use in Teaching

Computers and the internet have arrived in Slovenian schools although 100 pupils still have only 8 computers to share.

The share of teachers in Slovenia – but also in the European Union in general – who believe that computers and the internet should not at all be used in schools, is very low and below 1%.

Slovenian teachers have positive attitudes about the different applications of ICT in teaching and achieve figures below the European average on attitudes that ICT should be used for letting pupils do exercises and practise (71%), letting pupils retrieve information in a self-directed manner (84%) and for collaborative and productive work by pupils (54%). There are only minor differences across school types.

Access, Competence and Motivation for Using ICT and the Internet in Schools

Access

A majority of Slovenian teachers are more or less satisfied with the technical access means at their schools: 84% state that their school is well equipped with computers and 90% express the opinion that their internet connection is fast enough. A comparatively low 47% wish there were better support and maintenance actions taken.

In terms of content 42% state problems with respect to finding adequate learning materials and 30% argue that existing materials are of poor quality.

Competence in using ICT

Slovenian teachers feel most competent in using e-mail and using a text processor programme but are less confident with downloading and installing software and with using presentation software packages. The figures are very close to the European average.

Upper level school teachers (almost 50%) seem to be less ICT competent than those in lower level schools (around 35%).

Motivation for ICT use in Schools

90% of Slovenian teachers see significant learning benefits for pupils using computers in class and say that pupils are more motivated and attentive when computers and the internet are used in class. Another 90% argue that there are significant learning benefits for pupils when using ICT in class. This is the third best figure from all European countries.

Attitudes on the Usefulness of ICT use in Teaching in Slovenia 2006

Percentage of teachers saying computers/internet should be used for …	Total SI	Total EU25	Total NMS10	Educational Level				Type of locality		
				Primary	Lower secondary	Upper secondary	Vocational	Densely populated	Inter-mediate	Thinly populated
Letting pupils do exercises and practise	70.5	79.9	78.8	73.8	73.6	62.9	61.6	62.7	66.9	76.2
Letting pupils retrieve information in a self-directed manner	83.5	85.0	87.8	84.3	83.8	84.4	80.0	88.1	85.9	80.0
Teaching about office tools	31.9	61.3	51.0	31.4	31.9	32.3	31.5	34.4	30.3	31.9
Collaborative and productive work by pupils	54.4	80.5	67.2	51.5	52.1	62.1	64.2	53.9	60.0	50.7
Computer/internet should not be used for any of these in teaching	0.7	0.6	0.5	0.9	0.9	0.5	0.3	1.8	0.0	0.8

Source: *LearnInd CTS 2006;* ***Base:*** *all teachers;* ***Question:*** *Q13: "What do you think for what computers and the internet should be used for in teaching?"*

Teachers' access, competence and motivation for using ICT in class 2006

Percentage of teachers agreeing or strongly agreeing:	Total SI	Total EU25	Total NMS10	Educational Level: Primary	Lower secondary	Upper secondary	Vocational	Subject of teaching: General primary	Literature and languages	Humanities and social sciences	Science, maths, computer sciences	Physical, artistical, crafts education	Vocational education
Access													
Our school is well equipped with computers [a]	83.8	74.2	76.5	85.9	87.0	70.2	77.8	86.0	76.3	68.4	85.3	*91.5**	*92.8**
The internet connection we have is sufficiently fast [b]	90.0	77.2	78.2	90.3	91.3	90.7	87.2	91.4	89.7	88.6	88.8	*92.8**	*86.7**
Better technical maintenance and support is required in our school [c]	47.2	64.8	64.6	44.4	44.2	59.6	55.1	45.2	50.6	52.2	48.2	*46.6**	*31.2**
Existing teaching materials on the Internet are of poor quality [d]	29.5	29.9	29.3	26.0	26.1	46.8	41.0	19.7	24.6	36.1	36.8	*27.3**	*26.6**
It is hard to find adequate learning materials for teaching [e]	42.1	38.7	30.5	39.7	39.5	57.2	48.3	34.5	33.8	49.4	48.3	*53.4**	*38.1**
Motivation													
Pupils are more motivated and attentive when computers and the internet are used in class [f]	89.7	86.3	90.1	91.0	90.5	82.6	87.1	94.6	90.8	91.9	89.3	*77.1**	*92.0**
Using computers in class does not have significant learning benefits for pupils [g]	10.4	20.7	9.5	10.5	10.5	13.6	10.6	5.2	9.2	21.0	12.8	*11.6**	*4.5**
Competence													
Teachers in our school do not have sufficient computer skills [h]	37.7	42.0	30.6	35.3	35.9	48.0	46.3	39.9	31.6	41.1	40.9	*34.0**	*48.9**
Competence / computer skills (Percentage of teachers who feel very confident at…)													
Using text processors [i]	63.9	65.0	63.2	62.8	62.1	67.2	74.4	61.2	68.0	*55.9**	67.6	*59.4**	*62.4**
Creating electronic presentations [j]	37.6	34.0	41.0	35.0	34.5	52.0	56.6	25.2	28.7	*35.3**	50.7	*35.0**	*32.6**
Using e-mail [k]	64.5	65.9	64.8	60.4	60.4	76.4	83.6	58.0	69.6	*63.1**	68.2	*49.3**	*85.8**
Downloading and installing software [l]	16.7	35.8	34.6	14.1	13.4	26.2	31.9	7.3	10.0	*8.4**	30.0	*11.9**	*9.5**

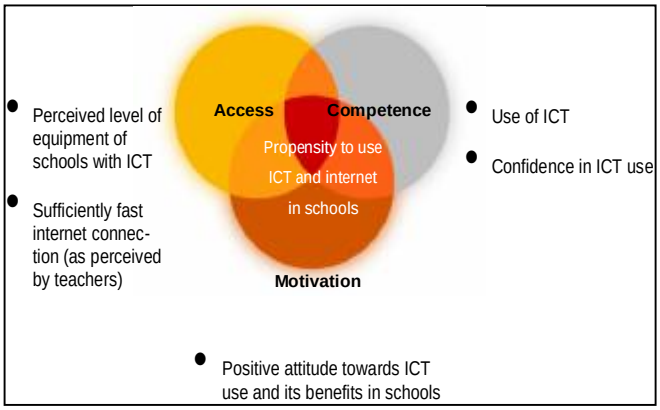
Source: *LearnInd CTS 2006;* ***Base:*** *a-h All teachers; i -l Teachers using computers in class* ***Question:*** *a-h Q14, i-l Q11.* ***Notes:*** *"xx.x*": based on at least 10 and less than 50 cases.*

ICT Readiness of Teachers – the ACM Model

The ACM model as developed by Viherä and Nurmela (2001)[3] was applied in LearnInd to generate a typology according to the "propensity to the use of computers and internet by teachers in classroom situations at schools".

The typology in the figure below takes account of the three main categories of preconditions which need to be given for a school to make use of computers and the internet in the teaching process in classrooms, computer labs etc.

The Access-Competence-Motivation Model



These are: access (to computers and the internet at school), competence (in using the computer software and the internet, and applying it for teaching purposes), and motivation (gauged through the attitude that using computers in classrooms results in significant learning benefits).

Any attempt to group the classroom teachers according to their propensity to becoming users of computers and the internet in their teaching processes needs to take account of these three dimensions. In the present application of the ACM model data from the Classroom Teacher Survey (CTS) was used. Therefore "access" for instance is to be understood as a perceived level of computer equipment at schools and teachers' satisfaction therewith rather than an objective measure of equipment status.

38% of European teachers dispose of sufficient access to the internet at school, the necessary competence in using ICT in class and are motivated to its use. With a very high 52% of the teachers belonging to this group, Slovenia ranks at 3rd which places the country close to the top of European countries. Overall the UK with 60% ranks top and Latvia with 15% finds itself at the very end.

Access, Motivation and Competence of Teachers for Using ICT in Schools in Slovenia 2006

SI	EU25	Access	Competence	Motivation
2.0	4.3	~~Access~~	~~Competence~~	~~Motivation~~
4.7	3.9	**Access**	~~Competence~~	~~Motivation~~
4.2	9.7	~~Access~~	**Competence**	~~Motivation~~
2.4	5.0	~~Access~~	~~Competence~~	**Motivation**
10.0	13.7	**Access**	**Competence**	~~Motivation~~
9.2	4.8	**Access**	~~Competence~~	**Motivation**
15.2	20.7	~~Access~~	**Competence**	**Motivation**
52.2	37.9	**Access**	**Competence**	**Motivation**
100	100			

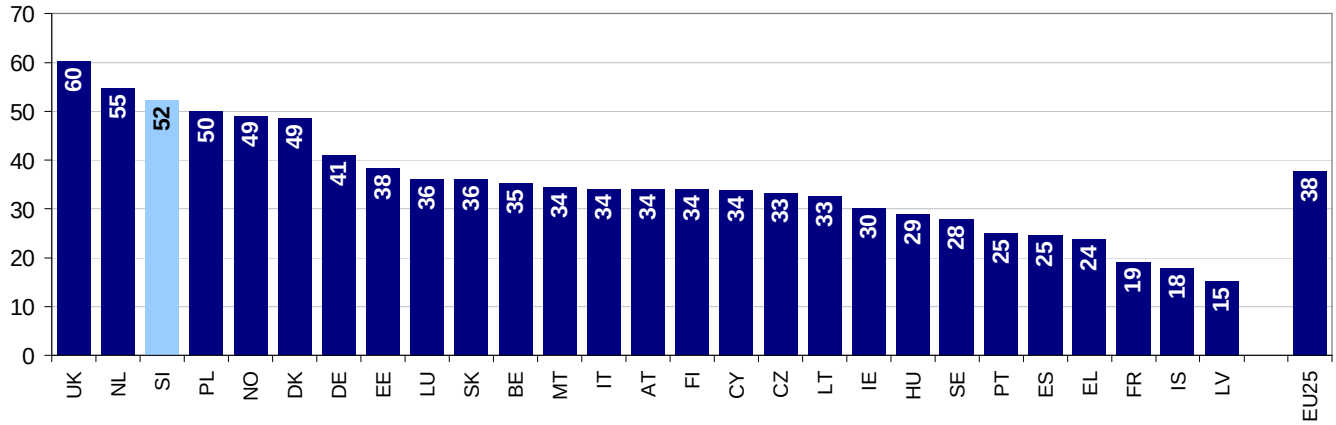
Percentage of teachers. ***Source:*** *LeanInd CTS 2006;* ***Base:*** *All teachers;* ***Question:*** *See endnote [4]*

The as yet insufficient internet connection in many schools and a lack of motivation of teachers for using ICT are the most critical issues for a wider uptake of computers

and the internet in schools in Europe. 20% of European teachers indicate insufficient computer equipment and the low speed of internet connection at their school as key barriers. 14% show a lack of motivation, i.e., they are of the opinion that using computers in class does not result in significant learning benefits.

The situation in Slovenia is somewhat different with figure on both items being lower than the European average. 15% compared to 21% lack ICT access in their schools, and 10% as opposed to 14% for the EU25 lack motivation but have the necessary ICT skills and ICT access. This results in an ICT readiness of teachers which brings Slovenia into the group of the European top performers. Again one needs to bear in mind that the ACM model, and as a consequence the ICT readiness, has been calculated on the basis of indicators which include a self-assessment of teachers and their subjective opinions. Obviously the Slovenian teachers are underestimating the fact that the ICT equipment in their schools still leaves a lot room for improvement.

ICT Readiness of Teachers in Slovenia: Percentage of Teachers Fully Ready to use Computers in Class (ACM Indicator) 2006



Source: *LeanInd CTS 2006;* ***Base:*** *All teachers.* ***Question:*** *See endnote 5*

ANNEXES

Methodology Report

Universe / Sample population

In order to assure the comparability of school levels in all countries UIS-OECD-EUROSTAT "Mapping of national education programmes to ISCED 97 for school academic/year 2002/2003" [5] was used for composing the sample frame. Based on this, each country divided its school system into ICSED codes and made different combinations that existed in its country.

Sampling frame and method

The sample was composed using official databases, which contained contact data of schools. In the majority of countries the sample was drawn from a database received from the Ministry of Education.

For each country a separate template of sample frames was composed by TNS Emor. These templates contained data about school types across regions as well as location type. School types were defined based on the ISCED codes provided in UIS-OECD-EUROSTAT. Location type distribution was made according to the Eurostat type of locality classification which differentiates densely populated, intermediate and thinly populated municipalities[6]. Apart from that, each country was divided into 3-7 regions depending on the size of a country.

Based on the data provided by countries, TNS Emor composed quotas for each country. Two level stratification was used – quotas for first stage, random sample for second. The quotation for region by school type and location type was endorsed. Simple random selection was conducted by the local agency or the local source of the contact base. Both private and public schools were included in the sample. It was also obligatory to include schools of other teaching languages than the official language of a country in the sample.

Simple random sampling was used inside a quota cell. This means that if the quota for primary schools in region1 was 100 and the total number of primary school in this region was 800, then a random sample selection was be made among those 800 schools. This covered also both private and public schools and schools of other teaching languages than the official language of a country.

No more than 50% of interviews could be made in one school level. At least 10% of respondents had to be from schools, which provided professional/vocational or combined programme of vocational and upper secondary level education (in case a country did not have special quota for those schools). It did not matter whether vocational education level was coded as ISCED 3 or ISCED 4.

There were no duplications in samples of head teacher and classroom teacher surveys. This was only allowed in countries with small universe sizes (e.g. Malta, Cyprus, Iceland, Estonia, Latvia etc) and in cases where the last quota cells were very difficult to achieve or there were not enough schools of a certain type. The priority was to include as many different schools as possible. In both surveys, 5 attempts were made before giving up and only if the respondent refused was this person not contacted again.

The CATI programme generated a randomly chosen letter. The interviewer asked for the person with a surname that started on the generated letter. If there was more than one teacher whose surname started with the selected letter, the person that is first alphabetically was chosen. If the correct person was not available, an appointment was made. At least 5 attempts were made, before taking another teacher.

Only in Malta, due to instructions dictated by the Education Department, the Head Teacher would randomly select a teacher that would be available for an appointment during which they would be interviewed.

Number of interviews conducted (HTS / CTS)

Country		Head Teachers	Classroom teachers
BE	Belgium	450	807
CZ	Czech Republic	500	1000
DK	Denmark	315	848
DE	Germany	450	901
EE	Estonia	400	851
EL	Greece	500	1000
ES	Spain	518	1022
FR	France	501	869
IE	Ireland	403	626
IT	Italy	500	900
CY	Cyprus	150	600
LV	Latvia	451	902
LT	Lithuania	457	908
LU	Luxemburg	82	277
HU	Hungary	500	1000
MT	Malta	100	200
NL	Netherlands	515	890
AT	Austria	320	450
PL	Poland	500	1000
PT	Portugal	450	900
SI	Slovenia	253	460
SK	Slovakia	502	1000
FI	Finland	318	601
SE	Sweden	200	450
UK	United Kingdom	450	905
IS	Iceland	177	424
NO	Norway	494	708
TOTAL		**10456**	**20499**

Fieldwork

Fieldwork was coordinated by the TNS Emor and conducted in cooperation with its local TNS offices excluding Iceland, Cyprus, Austria, Slovenia and Malta where TNS does not have offices. In these countries partners with whom TNS had previous experience were used.

Pilot interviews prior to the regular fieldwork were conducted with 20 schools in both target groups in Estonia and Greece in February 2006, in order to test the questionnaire (structure, comprehensibility of questions).

Between March and April 2006, surveys among head teachers (head teacher survey - HTS) and classroom teachers (CTS) were carried out in 27 European countries. TNS Emor was responsible for the fieldwork.

Weighting schemes

After the fieldwork, weighting coefficients were computed using region, location type and school type.

Statistical accuracy of the survey: confidence intervals

Statistics vary in their accuracy, depending on the kind of data and sources. A "confidence interval" is a measure that helps to assess the accuracy that can be expected from data. The confidence interval is the estimated range of values on a certain level of probability of error. Confidence intervals for estimates of a population fraction (percentages) depend on the sample size, the probability of error, and the survey result (value of the percentage) itself. Further to this, variance of the weighting factors has negative effects on confidence intervals.

The calculation of confidence intervals is based on the assumption of (quasi-) infinite population universes. In practice, however, in some countries and for some school levels the complete population of schools consists of only several hundred or even a few dozen of schools. In some cases, literally each and every school within a country-school type cell was contacted and asked to participate in the survey. This means that it is practically impossible to achieve a higher confidence interval through representative school surveys in which participation is not obligatory.

Country Background Data

In Slovenia, the share of inhabitants living in rural communities is the highest in Europe. The country has one of the lowest fertility rates, and the number of young people aged 0–14 is far below average. The GDP per Capita is at a medium level compared to the other Member States, and a relatively high amount of public expenditure is spent on education.

General Population Data for Slovenia2002/03[7]

Total population (000)	1,986
Annual population growth rate (%)*	0.1
Population 0-14 years (%)	15
Rural population (%)*	51
Total fertility rate (births per woman) *	1.2
Infant mortality rate (0/00) *	5
Life expectancy at birth (years) *	76
GDP per capita (PPP) US$ *	18,437
GDP growth rate (%)*	3.3
* World Bank World Development Indicators	

Resources for Education in Slovenia 2002/03

Pupil / teacher ratio (primary)	13
Public expenditure on education :	
as % of GDP	6.1
as % of total government expenditure	…
Distribution of public expenditure per level (%):	
pre-primary	…
Primary	…
secondary	…
tertiary	…
unknown	…

The Educational System in Slovenia[8]

In 2003, there were 175,211 pupils in compulsory education. The official language of instruction is Slovenian. In the Hungarian-speaking area, bilingual instruction in Hungarian and Slovenian is compulsory. The Italian-speaking area hosts Italian-medium schools where Slovenian is a compulsory subject and Slovenian-medium schools where Italian is a compulsory subject. There are also two international schools (English and French).

The majority of elementary and upper secondary school pupils attend public-sector schools (99.4%), which are set up and funded entirely by the State and the municipalities. Private-sector schools, which are set up by the non-public bodies and carry out state-approved programmes, are subsidised by the State (by 85-100%). In the school year 2002/03 there were 811 public elementary schools and 1 private elementary school (Waldorf), 138 public and 5 private upper secondary schools for youth.

The task of administration is divided among the national authorities, the local authorities and the schools. The former Ministry of Education, Science and Sport was separated (in the beginning of 2005) into two new ministries: the Ministry for Education and Sport and the Ministry for Higher Education, Science and Technology. The Ministry of Education and Sport is responsible for the development of school education policies, inspection procedures, the allocation of funds, the implementation of laws and administrative decisions relating to pre-primary, primary and secondary schools. The local authorities (*občinski sveti*) are responsible for the administration of pre-primary establishments and basic education establishments. The schools' councils – (*sveti šol*) play an important role in the process of administrative decentralisation. The education inspectorate is the responsibility of the National Inspectorate for Education and Sport (*Inšpektorat Republike Slovenije za šolstvo in šport*), which comes under the authority of the Ministry of Education and Sport. The Ministry for Higher Education, Science and Technology is responsible for the field of higher education.

The use of ICT in Education[9]

A comprehensive and radical reform dedicated to lifelong-learning was launched in 1996. The process has encompassed all sectors and levels in formal education: ranging from pre-school education, elementary school, VET and general upper secondary school (*gimnazija*), music education, programmes for special needs pupils and students to

upper secondary vocational education and higher education, which is currently under reform.

At the same time, transformation and upgrading of the system of non-formal learning in many fields also took root. The strategies for adult education and tertiary education have already been adopted; therefore partial strategies need to be linked to the common lifelong learning strategy.

All elementary schools have computer support, Internet access and expert support in the training of teachers to use ICT. An integral part of the introduction of a nine-year elementary school programme is long-term detection of changes that occur in the education and training systems and processes as the consequence of the reformed programme.

Higher education has also been adjusting its programmes to cater for the needs of its adult participants with the introduction of distance studies based on new ICT.

The whole context and purpose of lifelong learning have been incorporated into legislation and are part and parcel of curriculum at all levels and in all sectors of education. Quite a high percentage of GDP (and still subject to increase) is allocated to education. The funding also includes the networking of all stakeholders interested in providing accessible and high-quality system of learning and education underpinned with all necessary infrastructure (ICT, information and counselling centres, wide-ranging and accessible network of institutions, methods and forms of learning and education etc.).

The establishment of regionally efficient networks of vocational and professional schools, lifelong and counselling centres, and contact points in order to provide support and respond to priorities in national and regional economies also remains a priority.

Focusing on primary and secondary schools, the EU adopted a special action in 2004 - eTwinning. Slovenia actively engaged in the action by appointing a national counselling centre and by adopting the programme of activities to encourage cooperation and engagement of Slovene schools. Having had ample and past experience in virtual integration (i.e. *e-scola*), Slovenian schools expressed great interest in participating in e-Twinning. Their decision was underlined by the participation within EU Socrates/Comenius programmes supporting school innovative and development projects among EU member states.

The Study

There is a lack of information on the actual use of ICT for learning in schools and for supporting political action in potential future programmes. It is necessary to clarify matters such as the educational vision of heads of schools, the current impact of ICTs on teachers' practice, support and training and on other factors for success in e-learning.

The objective of the study is to obtain estimates for the eEurope 2005 indicator on e-learning "number of pupils per computer with Internet connection (broadband/non-broadband)" and relate it to other possible indicators of educational use of ICT in compulsory education (e-learning in schools). The study looks at how Information and Communication Technologies (ICT) are used in schools.

The study is a continuation of the earlier benchmarking exercise for eEurope 2002.

It involved two surveys. Firstly of head teachers to obtain information on the schools and then of teachers to focus on their use of ICTs in the teaching process

This exercise is part of the Information Society monitoring and benchmarking process for which the Commission in cooperation with the Council defined benchmarking indicators.

Country Briefs

This document has been prepared by **empirica** based on own desk research and the above mentioned primary data sources: Head Teacher Survey (HTS) 2006 and Classroom Teacher Survey (CTS) 2006 in the EU25 member states, Iceland and Norway.

Altogether 27 LearnInd Country Briefs are available in a common format, one for each member of the enlarged European Union, Norway and Iceland.

A final report has also been developed. It includes approximately 100 exhibits, more than 250 data tables and a report about the key results.

You can access and download these documents in PDF format (for free) from http://ec.europa.eu/information_society/eeurope/i2010/benchmarking/index_en.htm.

More information

Check our results and achievements on: http://ec.europa.eu/information_society/eeurope/i2010/benchmarking/index_en.htm. If you wish to be provided with more details, or to receive news and updates, please contact us at: **learnind@empirica.com** or get in touch with us.

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1 Note that "in class" means during lessons while teaching and does not denote a particular location such as a classroom.

2 Base (100%) = all teachers who have used a computer in class in the last 12 months.

3 Viherä, M-L, Nurmela, J (2001) "Communication Capability Is an Intrinsic Determinant for Information Age", in Futures, Volume 33, Issue 3-4:245-265.

4 Synthetic indicators: Access: Q14 (2) "Our school is well equipped with computers" and Q14 (3) "The internet connection we have is sufficiently fast ".

Competence: Q11 How confident do you feel... a) using a text processor, b) creating a presentation c) using e-mail, d) downloading and installing software. Threshold: Average of 2.5 or more on a 1-4 confidence scale

Motivation: Q14 (8); disagree "Using computers in class does not result in significant learning benefits".

For full question wordings refer to questionnaire.

5 http://forum.europa.eu.int/Public/irc/dsis/edtcs/library?l=/public/unesco_collection/programmes_isced97&vm=detailed&sb=Title

6 Densely populated area refers to a set of closely related local units, each one of which having a density greater than 500 inhabitants per km2, and the total population of which being of at least 50 000 inhabitants; Intermediate area refers to a set of closely related local units that do not pertain to a densely populated area, each one of which having density greater than 100 inhabitants per km2, and where the total population is at least

of 50 000 inhabitants or it refers to a set that is adjacent to a highly populated area. Thinly populated area (rural): refers to a set of closely related local units that are not part of a densely populated area, or of an intermediate area. (A set of local areas totalling less than 100 km², not reaching the required density, but entirely enclosed within a densely-populated or intermediate area, is to be considered to form part of that area. If it is enclosed within a densely-populated area and an intermediate area it is considered to form part of the intermediate area).

[7] Source: http://www.uis.unesco.org/profiles/selectCountry_en.aspx (visited 28 March 2006)

[8] Source: http://www.eurydice.org/Documents/struct2/frameset_EN.html (visited: 28 March 2006)

[9] Source: http://europa.eu.int/comm/education/policies/2010/nationalreport_en.html (visited: 9 May 2006)